



# MOTION TECHNOLOGIES PTY LTD

## AC Motor Controllers

In this category are 3 AC Power Controllers which are suitable for:

- Fan motors typically used in HVAC systems
- Resistive loads like a light dimmer
- Inductive loads like a transformer

All thyristor phase angle controllers can be mounted on a DIN rail.

The control part is galvanically isolated so the power controllers are suitable also for automation use.

Triac (thyristor) inverter can be driven with standard 0-10V or 4-20mA signal.

### Index

1. EM-162: 240Vac 1 ph triac phase angle controller.  
10 to 200 W, suitable for resistor, fan motor, transformer.
2. EM-217B: Inverter for 240Vac 1 ph induction motors <15 W.  
Speed control, direction change, start ramp, V/mA control signal
3. EM-262: 240Vac 3A 1 ph power controller.  
50 to 700 W, resistive or inductive loads, analogue signal command

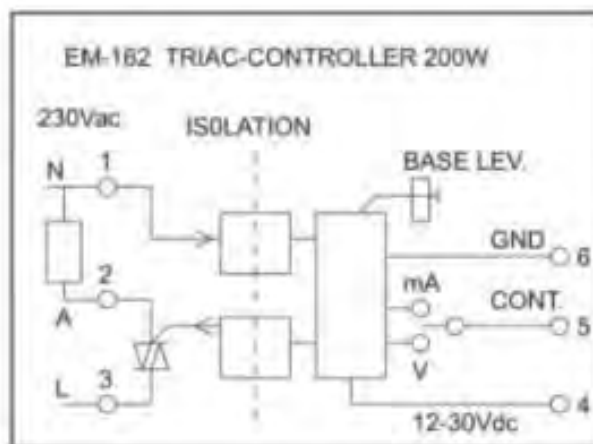
# EM-162 230VAC/1A POWER CONTROLLER

EM-162 is a triac phase angle controller. The unit works fine with both resistive and inductive loads due to advanced triggering technique. Suitable loads include for example lamps, resistors, fan motors and transformers. Base level adjustment can be used to set the start level 0-25%. This function is useful especially in lighting and fan usage. The control stage is galvanically isolated from power stage, which means the unit is easy to connect to a part of an automation system. The power stage is equipped with a fuse, the control stage is protected against over voltage and reversed polarity.



## Technical data

Supply	190-265Vac
Current consumption	1A max.
Load	10-200W
Control range	0-99%
Base level adjustment	0-25%
Aux. Voltage	12-30Vdc
Aux. v. current	20mA max
Control	0-10V / Rin 100k 4-20mA / Rin 180R
Control start	100mV / 4.2mA
Fuse	T1.6A
Isolation voltage	1500Vrms
Operating temp	-10...50°C
Dimensions	90.60.36mm
Weight approx.	70g



# EM-217B INVERTER FOR 230VAC 1-ph INDUCTION MOTORS

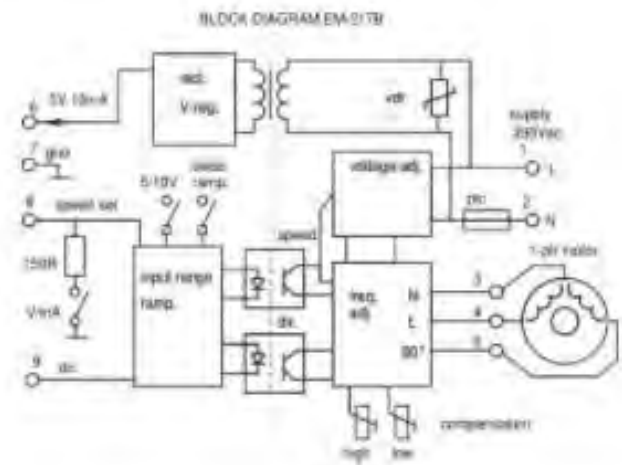
(add -H for housed version)

EM-217B is a frequency inverter for speed control of small 1ph induction motors. This device creates two output voltages with 90 deg. phase difference to each other, so there's no need for auxiliary capacitor like often with 1ph motors. The frequency output range is from 15Hz up to 80Hz. The output stage works with PAM principle and that way the EMC emissions are very low. The control can be done with voltage or mA signal or with potentiometer. The rotation direction can be changed with digital command. All control inputs are galvanically isolated from mains supply. Device has also a start and stop ramp for smooth operation. If needed, the stop ramp can be disabled for quicker stop. The EM-217B has self recovery mains fuse that offers a good immunity against the mains voltage spikes.



## Technical data

Supply voltage	200-240Vac 50/60Hz
Current consumption	max. 200mA
Motor recom. up to	< 15W
Isolation	1500Vrms
Aux. voltage output	5V max. 5mA
Control signals	0-5V, 0-10V tai 4-20mA
Potentiometer recom.	1-47kohm
Input impedance	100kohm / 150ohm
Dir. input level	4-30V = 0N /
Dir input impedance	100k
Start ramp	1s ( 0 to 100% )
Stop ramp	1s. or 0s.
Direction change delay	0,2s
Connectors	1.5mm
Operation temp.	0-60°C
Power loss	max. 5W
weight	80g ( 100g with box )
Dimensions card	67x86x30
Dim. with box	72x90x60
EMC tested for household / light industr	



# EM-262 230VAC/3A POWER CONTROLLER e.g for fan motor speed control

EM-262 is a triac phase angle controller. The unit works fine with both resistive and inductive loads due to advanced triggering technique. Suitable loads include for example lamps, resistors, fan motors and transformers. Base level adjustment can be used to set the start level 0-40%. This function is useful especially in lighting and fan usage. The control stage is galvanically isolated from power stage, which means the unit is easy to connect to a part of an automation system. The power stage is equipped with a fuse.



## Fan speed Control

EM-262 is popular on use of AC fan speed control. Triac based power control circuit gives smooth motor speed control for fan. It's possible to control power from 0% to full 100%. Notice when operating low speed the Triac or commonly also named as Thyristor controller may generate some noise.

## Dimmable LED Control

The design of EM-262 makes possible also control the dimmable LED light. Continuous triggering method guarantee the functionality of triac power control on EM-262 which is normally difficult to achieve on e.g. inductive loads or dimmable LEDs.

## Control with 4-20mA and 0-10V signal on Automation systems

EM-262 can be part of automation system on industrial or other environment where the standard 4-20mA or 0-10V signal is used for controlling the electronics. Galvanic isolated control stage makes it safe to use.

## Technical data

Supply	190-265Vac
Current consumption	3A max.
Load	50-700W
Control range	0-99%
Base level adjustment	0-40%
Aux. Voltage	5Vdc
Aux. v. current	10mA max.
Control	0-5V / Rin 100k 0...10V / Rin 100k 4-20mA / Rin 180R
Control start	100mV / 4.2mA
Fuse	T4A
Isolation voltage	1500Vrms
Operating temp.	-10...50°C
Dimensions	90,60,71mm
Weight approx.	n. 180g



**Distributors for Australia & New Zealand**

**MOTION TECHNOLOGIES PTY LTD**

24/22-30 Northumberland Road  
Caringbah NSW 2229 Australia  
Phone: (02) 9524 4782

sales@motiontech.com.au  
www.motiontech.com.au

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